Neo4j @ Gamesys

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About Gamesys

- *Major Cash & Social Gaming operator, primarily in UK & Europe*

- *World first Cash gaming on Facebook*

- *Bingo, Slots, Casino, Instants*

- *Handle ~5bn wagers per annum*

- *200k unique cash players a month*

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Our Use Case

- *Online Bingo is a highly social game, there is chat alongside the game*

- *Acquiring new players can be very expensive*

- *Players acquired by referral are cheaper to acquire and higher value*

- *We want to incentivise members to refer their friends*

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Choosing a Store?

- *Well, it's a Social Graph. The clue is in the name!*

- *We discovered TinkerPop[1], Blueprints is like JDBC for graphs*

- *We looked at Neo4j[2], OrientDB[3] & Dex[4]*

- *Late 2011, Neo Technology were the only sizable players in the market*

- *Good news is that both OrientDB & Dex also seem to have had significant customer wins in the past year or so. That means the Graph DB space is becoming bigger and more viable*

[1] http://www.tinkerpop.com/
[2] http://www.neo4j.org/
[3] http://www.orientdb.org/
[4] http://www.sparsity-technologies.com/dex

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Building the App

- *Separating the persistence from the model is less important than when using RDBMS.*

- *In fact, the power of graph traversals is part of the domain*

- *Relaxed about having annotations on domain objects*

- *Ended up using Spring Data Neo4j[1]*

  - *Great Documentation*

  - *Loads of support from Michael Hunger*

  - *Found a few bugs*

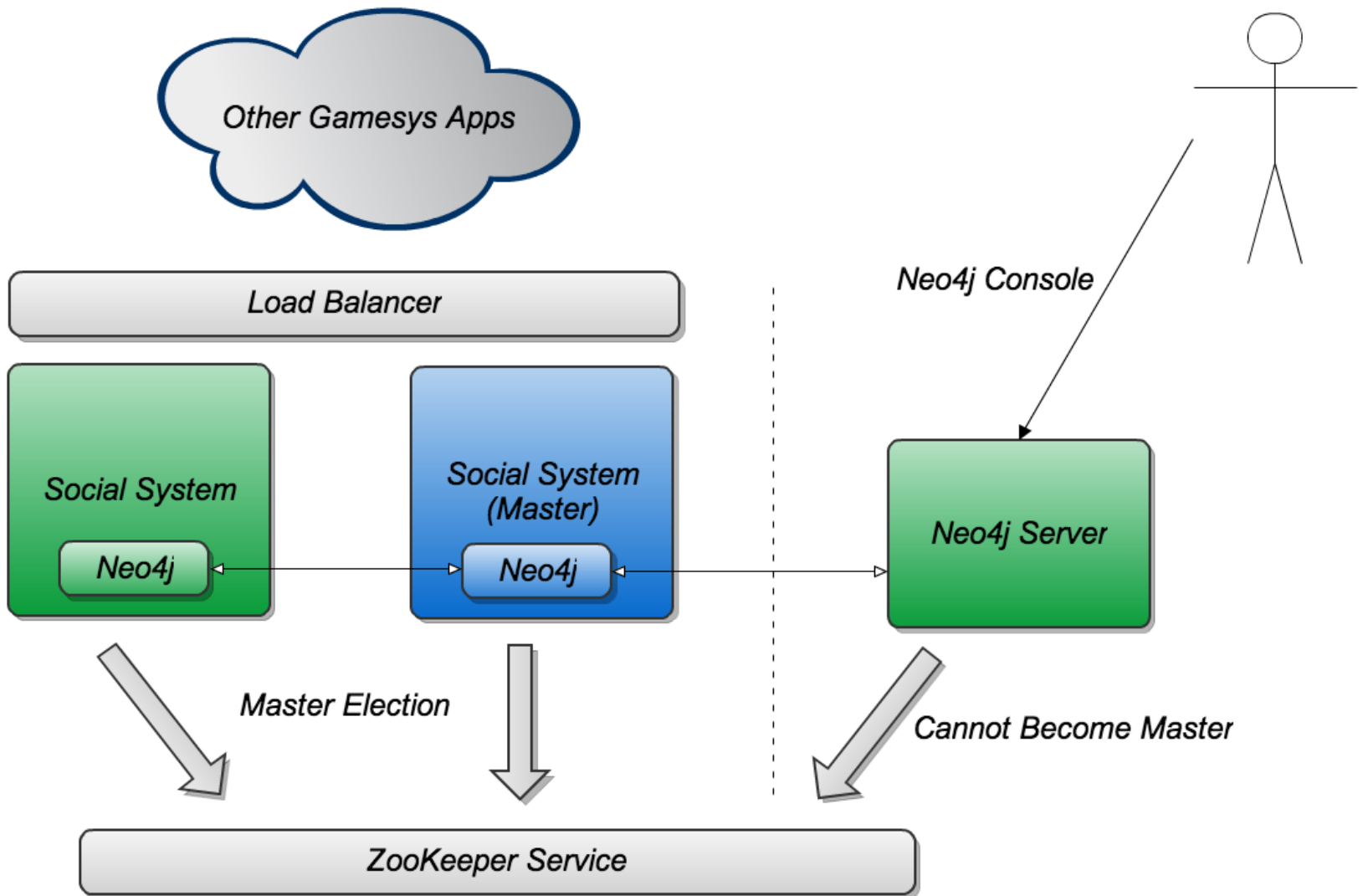 - *Had to drop back to straight up Neo4j APIs a couple of times*

[1] http://www.springsource.org/spring-data/neo4j

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Deployment & Ops

- *Server REST API is cool, but very fine grained, lots of network traffic*

- *Server Plugins are a nice way of having multi-tenancy in a single graph*
    - *We probably missed a trick here*

- *Embedded Neo might make n-tier types nervous*
    - *In our case Neo app is not directly exposed outside of our data centre, we deemed it OK*

- *HA with Zookeeper[1] in 1.8.x*
    - *Requires more moving parts, pretty straightforward to set up though*

- *Separate node as part of cluster, not serving live requests for ad-hoc querying*

[1] http://zookeeper.apache.org/

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Cypher & Reporting

- *The first time I saw cypher was a WTF moment! It's ASCII Art!*

- *Actually, it's brilliant*

- *Very expressive, helps you think in terms of traversals*

- *Mutating Cypher (1.8+) is a great feature*

- *Our analytics guys have adapted well*

- *Neo Technology have great resources for SQL guys[1]*

- *Would like to see connectors for reporting tools like Cognos in future*

[1] http://watch.neo4j.org/video/60292144

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Thinking in Graphs

- *People "get" graphs, it has been a pretty easy sell*

- *Development feels novel, faster, fun*

- *The graph is part of the domain, it's OK to have graph concepts in there*

- *We look at problems differently & see emergent value in the data*

- *We will be doing much more with Neo in future*

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Find out more

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Thanks!

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